

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012461**Date Inspected:** 05-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders (OBG)**Summary of Items Observed:**

Quality Assurance inspector (QA) Michael Foerder was at the American Bridge/Flour (ABF) job site at Yerba Buena Island and Oakland, California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

1. Project Files and Shop Drawings
2. OBG Field Splice 1E/2E A1-5 (Deck Plate)

**Project Files and Drawings**

The QA inspector spent a portion of the shift updating the contract files and tracking logs for QA reports, welder qualification records, welding procedure specifications, procedure qualification records, state letters and submittals on this date. In addition, the QA inspector performed shop drawing reviews and posting of comments for assigned submittals on this date.

**Field Splice 1E/2E Face A-1, A-2, A-3**

The QA inspector periodically observed the in process Submerged Arc Welding (SAW) being performed by ABF welding personnel Rory Hogan (ID-3186) for field splice welds designated 1E/2E-A1, A2 and A3. The QC inspector Tom Pascualone was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D1.5-4042B-1. The preheat and interpass temperature was verified by the QA inspector to be greater than 65° Celsius (C) and the parameters were verified to be 560 amps, 32.5 volts and a measured travel speed of 380mm/min. After each fill pass was completed by the welding operator the QC inspector performed a visual review and marked several areas for minor

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grinding/blending before proceeding with the subsequent pass and the QA inspector reviewed a portion of these areas and concurred with the QC inspector. After the lunch break the welding operator prepared to place an additional pass and the QC inspector verified the preheat temperature and noted it had fell below 65° C for approximately a meter in length located at the South side of the OBG. The welder immediately readjusted the induction heating coils for that particular area, reviewed the remainder of the weld locations with Foreman Dan Iraci and then placed additional heat utilizing a propane torch (“weed burner”). The QC inspector verified the interpass temperature again and confirmed it was above 65° C and the welder proceeded with the SAW. The work continued throughout the balance of the QA inspectors shift, was not completed and appeared to be in general conformance with the contract documents.

### Field Splice 1E/2E Face A-4, A-5

The QA inspector periodically observed the in process Shielded Metal Arc Welding (SMAW) being performed by ABF welding personnel Mitch Sittinger (ID-0315) for field splice welds designated 1E/2E-A4 and A5. The QC inspector Jim Cunningham was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D1.5-F1200A. The preheat and interpass temperature was verified by the QA inspector to be greater than 65° Celsius (C) and the parameters were verified to be 125 amps utilizing electrode E7018 H4R. The welder is in the process of filling and leveling the fill passes for these weld locations inside the weld joint due to uneven weld depth from the minor grinding of several location which were identified to have slag trapped in the layers. These areas were previously identified by the QC inspector and ABF welding personnel Jeremy Dolman (ID-5142) is performing the removal of these areas and is also noted to be the welding operator for the SAW. The SMAW and grinding of these locations continued throughout the QA inspectors shift, was not completed and appeared to be progressing in general conformance with the contract documents. See digital photos in the body of this report for general information.



### Summary of Conversations:

The QA inspector spoke with each QC inspector regarding general progression of the welding process' and preheat requirements.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)813-3677, who represents the Office of Structural Materials for your project.

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**Inspected By:** Foerder, Mike

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer